

Instruction Manual

HDBASET



MODEL : SB-5688CT
8x8 HDMI-CAT6 MATRIX SWITCHER

HDMI-CAT6 MATRIX SWITCHER SERIES

Thank you for purchasing the SB-5688CT HDMI-CAT6 Matrix Switcher. You will find this unit easy to install and highly reliable but it is essential that you read this manual thoroughly before attempting to use 8x8 HDMI-CAT6 Matrix switcher.



SAFETY INFORMATION



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONAL.

WARNING!

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK
DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the products enclosure that enclosure tha may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operational and maintenance (servicing) instructions in the literature accompanying the appliance.

Caution: To prevent electric shock do not use this (polarised) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure. To prevent electric shock, match wide blade of plug to wide slot, fully insert.

1. Save the carton and packing material even if the equipment has arrived in good condition. Should you ever need to ship the unit, use only the original factory packing.
2. Read all documentation before operating your equipment. Retain all documentation for future reference.
3. Follow all instructions printed on unit chassis for proper operation.
4. Do not spill water or other liquids into or on the unit, or operate the unit while standing in liquid.
5. Make sure power outlets conform to the power requirements listed on the back of the unit.
6. Do not use the unit if the electrical power cord is frayed or broken. The power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
7. Always operate the unit with the AC ground wire connected to the electrical system ground. Precautions should be taken so that the means of grounding of a piece of equipment is not defeated.
8. Mains voltage must be correct and the same as that printed on the rear of the unit. Damage caused by connection to improper AC voltage is not covered by any warranty.
9. Power down & disconnect unit from mains voltage before making connections.
10. Never hold a power switch in the " ON " position.
11. Do not use the unit near stoves, heat registers, radiators, or other heat Producing devices.
12. Do not block fan intake or exhaust ports. Do not operate equipment on a surface or in an environment which may impede the normal flow of air around the unit, such as a bed, rug, carpet, or completely enclosed rack. If the unit is used in an extremely dusty or smoky environment, the unit should be Periodically " blown free " of foreign matter.
13. Do not remove the cover. Removing the cover will expose you to potentially dangerous voltages. There are no user serviceable parts inside.
14. Do not drive the inputs with a signal level greater than that required to drive equipment to full output.
15. Non-use periods. The power cord of equipment should be unplugged from the outlet when left unused for a long period of time.
16. Service Information Equipment should be serviced by qualifier service personnel when:
 - A. The power supply cord or the plug has been damaged.
 - B. Objects have fallen, or liquid has been spilled into the equipment.
 - C. The equipment has been exposed to rain
 - D. The equipment does not appear to operate normally, or exhibits a marked change in performance
 - E. The equipment has been dropped, or the enclosure damaged.

IMPORTANT SAFETY INSTRUCTIONS

To insure the best from this product, please read this manual carefully. Keep it in a safe place for future reference.

To reduce the risk of electric shock, do not remove the cover from the unit. No user serviceable parts inside. Refer servicing to qualified personnel.

To reduce the risk of fire, do not expose the unit to rain, water or excessive moisture.

Do not force switched or external connections.

When moving the unit disconnect the serial port connections first then the power cable and finally the interconnecting cables to other devices.

Do not attempt to clean the unit with chemical solvents or aerosol cleaners, as this may damage the unit. Use a clean dry cloth.

Installation of this unit should be in a cool dry place, away from sources of excessive heat, vibration, dust, moisture and cold.

THIS SAFETY INFORMATION IS OF A GENERAL NATURE AND MAY BE SUPERSEDED BY INSTRUCTIONS CONTAINED WITHIN THIS MANUAL

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INTRODUCTION AND PACKAGE CONTENTS

INTRODUCTION

The SB-5688LCM-CT is high-performance 8x8 matrix routing switcher with eight (8) HDMI inputs and supports simultaneously eight (8) HDMI and eight (8) CAT5e/6/7 outputs. The SB-5688LCM-CT works with products designed using HDBaseT specifications. Supporting HDMI Video with embedded audio, RS-232, IR bi-directional, and all over a single CAT5e/6/7 cable. With a signal bandwidth of 340Mhz, there is no signal degradation. High Definition Digital signals can be selected and distributed to any 16 outputs simultaneously. The Switcher is certified as being fully CEC and HDCP 2.0 compliant, HDMI V1.4a 3D formats, data rates up to 6.75 Gbps. Supports UXGA/WUXGA/DVI 1920x1200 resolution to any HD displays. The SB-5688LCM-CT has one (1) CAT5e/CAT6 and HDMI connector for each output, effectively making this an 8x16 switcher (same signal on both outputs). One (1) CAT RJ-45 connection on each output extends the HDMI signal to remote location via HDBaseT CAT5e/6/7 HDMI Receiver SB-6335R. The EDID can be selected between seven (7) different modes. Control is provided via Front panel push buttons, IR remote or via RS-232. An RS-232 Windows GUI interface is provided for matrix routing.

PACKAGE CONTENTS

1. SB-5688CT Matrix Switcher
2. Operating Instructions
3. RS-232 V2.0 Protocol Instructions
4. Master wireless IR Remote Control (SW-5688)
5. 8 each; Individual wireless IR Control (SW-5688CT-IR01~IR08)
6. 19 inch Ear mount bracket (Part # 2U-440L)
7. IR Extender Transmitter (SB-101)
8. IR Extender Receiver (SB-100)
9. 2 each; IR Extender Cable 10 feet (3M)
10. CD Contents : This manual, Windows GUI, ISP V1.0 Windows driver
11. RS232 Cable 6 feet (2M)
12. Worldwide Universal Power Supply 100~230 VAC, AC 50/60Hz, 10A

Member of the HDBaseT Alliance

Products support HDBaseT Specifications

FEATURES

The SB-5688LCM-CT works with products designed using HDBaseT specifications. Supporting HDMI Video with embedded audio, RS-232, IR bi-directional, and all over a single CAT5e/6/7 cable.

FEATURES

1. 8x HDMI source devices matrix switched to 8x HDMI and 8x CAT5e/6/7 Extender output devices.
2. Application IR enabled by products designed using HDBaseT Specifications, RS-232, Multi Audio Format and HD Video Signals over CAT5e/6 Cable
3. HDMI digital Video w/embedded Audio, DVI format and CEC/HDCP 2.0 compliant
4. Worldwide control EDID modes for HD Video resolutions.
5. Link speeds of up to 6.75 Gbps (link clock rate of 340MHz), Support HDMI 1.4a 3D formats.
6. Wide range of HD resolutions from PC XGA to WUXGA 1920x1200 and HDTV/DTV HDMI resolutions 480i/480p, 576i/576p, 720p, 1080i & 1080p
7. Compatible with all HDMI source devices, PC monitors, Plasma HD display, HDTV and audio receivers/amplifiers.
8. Digital Video TMDS formats Resolution up to 1080P-60 with Deep color 36-bit.
9. Digital Audio Support :
 - Dolby TrueHD,
 - Dolby Digital,
 - Dolby Digital Plug/ex,
 - DTS,
 - DTS-HD,
 - DTS-HD Master,
 - DTS-EX
 - PCM, PCM2, LPCM2..
10. Various User Interface control:
 - Windows based GUI control via RS232 port
 - Front Panel push button
 - IR wireless remote control
 - Third party RS232 controller (via simple ASCII)
11. Support world wide control functions: ALL/OFF/RECALL/ENTER/MEMORY/EDID/LOCK
12. Support EDID modes :
 - Internal modes : AUTO/1080P-2CH/1080P-5.1/1080P-7.1/1080i-2CH/720P-2CH
 - External modes : Passing mode with learning function.
13. Automatic scanning input & output status via LED show on front panel.
14. Support IR Remote and IR Extender with distance up to ~ 1000' (300M) Maximum.
15. EDID configuration via Internal modes.
16. Consumer Electronic Control (CEC) switch all open or OFF

The Switcher will remember that last state during a power cycle.
When power is removed and resorted, the last configuration will be invoked.

SPECIFICATIONS

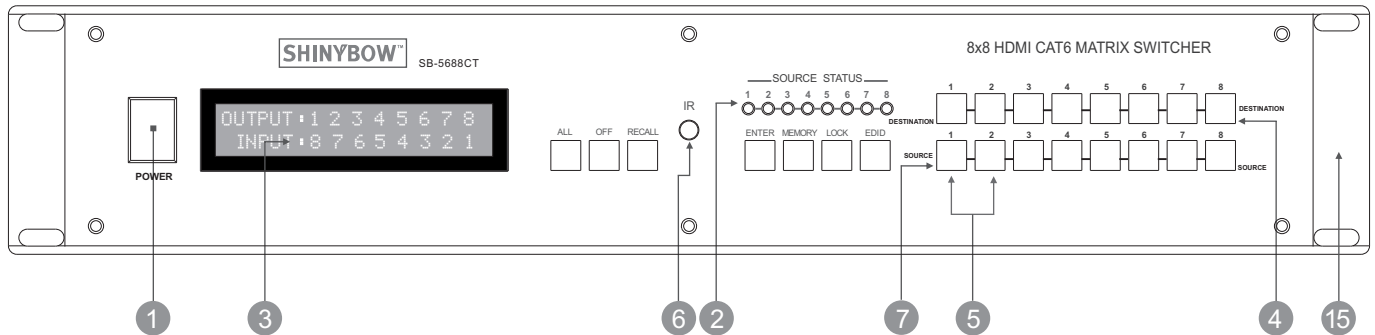
SPECIFICATIONS

Type of HDMI Switcher	8x HDMI inputs To 8x HDMI and 8x CAT5e/6/7 Outputs Matrix Switcher
HDMI Support	HD 1080P-@60Hz, H36-bit Deep color, 3D of HDMI V1.4a formats.
HDCP / CEC Support	HDCP 2.0 Compliant, CEC Compliant.
Video Bandwidth	Double Data Rates: 340Mhz, Total 6.75Gbps bandwidth.
Digital Video Support	HD:480i/ 480p/ 720p/ 1080i/ 1080p up to 36bit deep color
Inputs	8x HDMI Sources 1x IR Ext. in (IR To Switcher) 8x IRs (To 8x Rooms - Enabled by using HDBaseT Specifications) 1x ALL IR in (IR to Room - Enabled by using HDBaseT Specifications) 1x RS-232 (Command Switcher) 8x RS-232 (To 8x Rooms - Enabled by using HDBaseT Specifications)
Outputs	8x HDMI Destinations 8x CAT5e/6/7 (Enabled by using HDBaseT Specifications) 1x ALL IR out (IR from Room - Enabled by using HDBaseT Specifications) 8x IRs (From 8x Rooms - Enabled by using HDBaseT Specifications) 8x RS-232 (From 8x Rooms - Enabled by using HDBaseT Specifications)
Digital Audio Support	Multi Audio Formats 5.1 / 7.1, MAT(MLP) Dolby Digital, Dolby TrueHD, Dolby Digital Plus, DTS, DTS-ES 6CH, DTS-HD, DTS-HD-HRA, DTS-HD Master, (PCM-2CH)
Controls	IR Remote Controller (remote switcher) 8x IR Room Remote Controller IR External port x 1 (OD 3.5mm Ear phone Jack) Select & Function buttons on front panel RS 232 series interface
Source Status	Automatically Scan Sources Inputs via LED show out
Function Control Key	ALL / OFF / RECALL / ENTER / MEMORY / LOCK / EDID
Infrared Frequency	38 Khz
HDBaseT Distance	100m/328ft CAT5e/6 cable with RJ45 connectors
IR External Distance	~1000 feet / 300 meters maximum.
CAT5e/6 Extender Distance	~300 feet / 100 meters maximum.
HDMI I/O Connector	HDMI Type A - SMD 19pin Female Type
Temperature	32°F - 100°F Operation(0°C - 32°C)
Dimensions	LxWxH=19" x 9.85" x 3.50" (482mm x 250mm x 88mm)
Rack Mount	2RU High 19" Rack Mount #2U-440L (with rack mount)
Power Supply	AC 100~230 VAC 50/60Hz
Power Consumption	5880mA Maximum
Safety Approvals	CE, FCC, RoHS (2002/95/EC).
Product Weight	4.75 Kgs/ 7.91 lb

As product improvement is continuous, specifications are subject to change and without notice or liability.

FRONT PANEL

FRONT PANEL



1 POWER SWITCH

The power switch turns the unit on and off. The LED will illuminate red to indicate that the switcher is ON and is receiving power.

The Switcher will remember that last state during a power cycle.

When power is removed and resorted, the last configuration will be evoked.

2 INPUT STATUS DISPLAY

Input sources 1 to 8 LED illuminates blue to indicate that a video source is present on that input.

3 OUTPUT STATUS DISPLAY

Each Output (destination) Channel shows which input (source) is assigned.

4 DESTINATION SELECT BUTTONS

Separate outputs 1 thru 8 select buttons are provided for each destination assignment.

Routing can be Source to Destination or one source to multiple destinations.

Example : Press Destination 1,3,5 then press Source 2 will route Input 2 to Output 1,3,5 respectively.

5 EDID MODE SELECT BUTTONS

Used to select EDID mode using buttons #1 thru #2

6 IR SENSOR

The IR sensor receives IR commands from the supplied remote controller or third party IR emitter.

7 SOURCE SELECT BUTTONS

Separate inputs 1 thru 8 select buttons are provided each source selection.

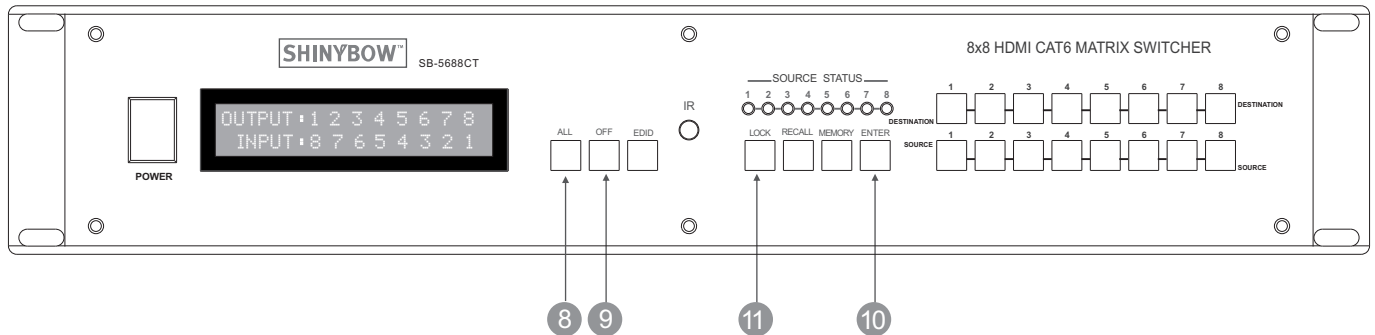
15 19 INCH EAR MOUNT PAIR

Converts desktop to 19 inch rack mount. Bracket (part # 1U-440L) INCLUDED.

Image shows rack mount bracket attached.

FRONT PANEL

FRONT PANEL



8 FUNCTION KEY - **ALL**



Disables (mute) video on all destinations OR Selects the same source to all destinations.

Option 1

- Press **ALL** followed by **OFF** button. The display will show " 0 " indicating all destinations have no video selected.

Option 2

- Press **ALL** followed by Source 1 thru 8. The display will show the Source selected.

- Press **ENTER** The pre-set source selection will be assigned all destinations.

9 FUNCTION KEY - **OFF**



Disables (mute) video to selected channels. Either destinations.

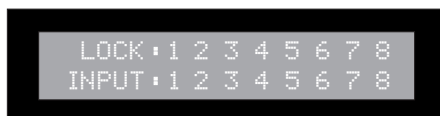
- Press **OFF** button followed by any Destination channel.

- Press 1 thru 4 output destination. The display will show " 0 " for the selected channel indicating no video selected.

10 FUNCTION KEY - **ENTER**

Press **ENTER** to confirm entries.

11 FUNCTION KEY - **LOCK**

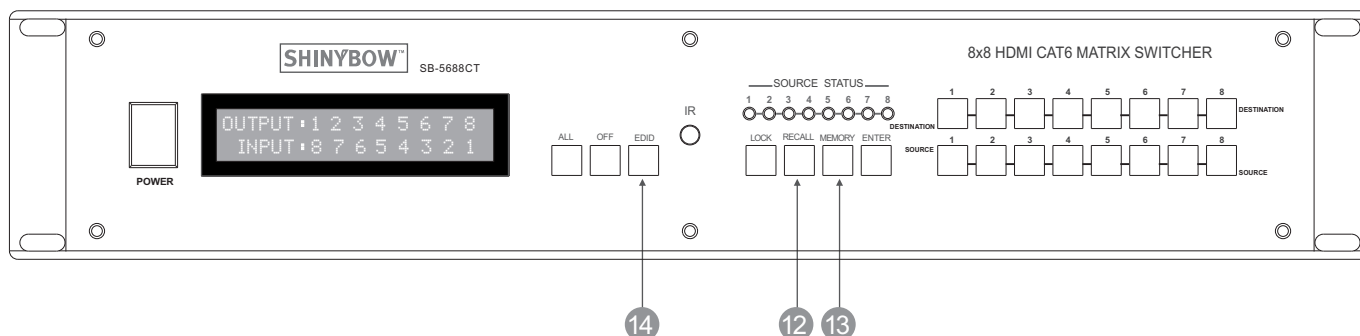


- Press and hold **LOCK** button for two seconds lockout the front panel.

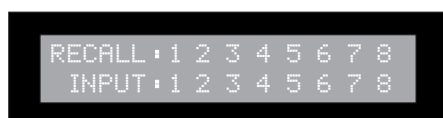
- Press and hold **LOCK** button for two seconds to enable the front panel.

FRONT PANEL

FRONT PANEL



12 FUNCTION KEY - **RECALL**



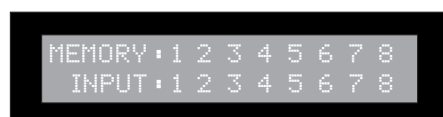
The system will show previously stored presets, up to a total of 16. Presets are stored in local memory using Source keys 1 thru 8 or Destination keys 1 thru 8 as the memory preset location.

- press **RECALL** button.
- press 1 thru 4 on either Source or Destination row.
- press **ENTER** The pre-set configuration will execute.

Operation completes.

Note: Operation will abort if no keys are pressed within 5 seconds.

13 FUNCTION KEY - **MEMORY**



The system will show store presets, up to a total of 16. Presets are stored in local memory using Source keys 1 thru 8 or Destination keys 1 thru 8 as the memory preset location.

- Configure desired matrices..
- Press **MEMORY** button.
- Press 1 thru 4 on either Source or Destination row.
- Press **ENTER** to ready memory location.
- or press **MEMORY** again to cancel operation.

Operation completes.

Note : Operation will abort if no keys are pressed within 5 seconds.

14 FUNCTION KEY - **EDID**



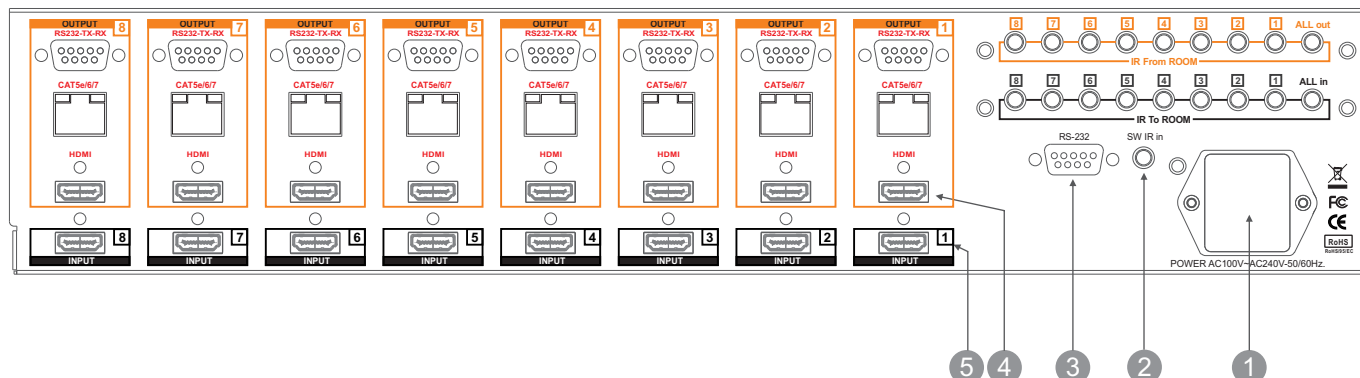
- press **EDID** to select new EDID mode or select source row #1 or #2 for LINK source EDID again.



- press DESTINATION again, press the same DESTINATION # to learn CATx EDID, The EDID for CATx has been learned.

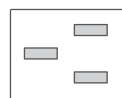
REAR PANEL

REAR PANEL



1 POWER INLET

The Switcher is fitted with a AC power plug input connector. Ensure that the used is of an approved type and is of sufficient current carrying connector capacity with the correct voltage and connector polarity. 100~240Volt AC, 50/60Hz power supply.



Power Plug:
Power input - AC100~240V,50/60Hz, 10A

2 IR EXTERNAL IN (EXT. IR TO CONTROL SWITCHER)

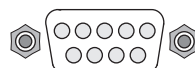
Support one of IR Extender to control Switcher
Extend distance maximum 300Meters / ~1000 feet
When you plug the External IR extender into the switcher, the front panel IR receiver remain active.



IR Extender Jack:
Female Jack - inner OD Ø 3.5 mm

3 RS 232 CONNECTION (SWITCHER)

RS 232 control port to allow for interfacing to a PC, Such as a computer or touch panel control, to the switcher via this DB-9pin Female connector for serial RS-232 control.

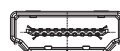


Remote port :
DB-9pin Female connector

4 OUTPUTS- 1,2,3,4,5,6,7 & 8 HDMI

Connect a signal link of HDMI direct digital video/audio to this Female HDMI connector. This connector supports HDMI digital video/audio and DVI digital video sources.

HDMI Digital Video/Audio, Connector with fix screw
Output 1 ~ Output 8



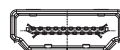
HDMI digital video/audio connector:
HDMI Female connector.

Note:
With the proper adapters, the switcher can be used with DVI digital video signals
HDCP compliant.

5 INPUTS- 1,2,3,4,5,6,7, & 8 HDMI

Connect a signal link of HDMI direct digital video/audio to this Female HDMI connector. This connector supports HDMI digital video/audio and DVI digital video sources.

HDMI Digital Video/Audio, Connector with fix screw
Input 1 ~ Input 8

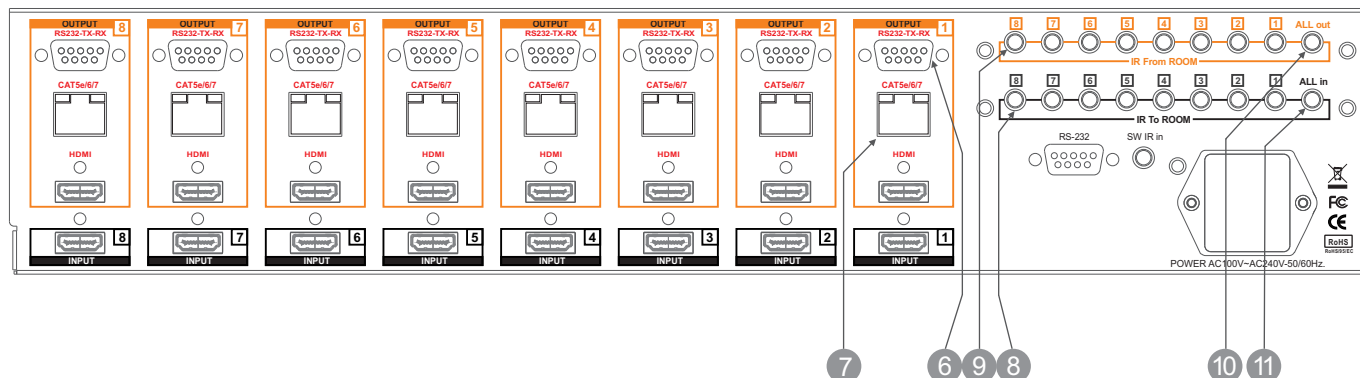


HDMI digital video/audio connector:
HDMI Female connector.

Note:
With the proper adapters, the switcher can be used with DVI digital video signals
HDCP compliant. DVI does not support audio.

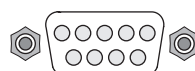
REAR PANEL

REAR PANEL



6 RS 232- 1,2,3,4,5,6,7 & 8 CONNECTION TO CONTROL ROOM

8x RS 232 control port to allow for interfacing to a PC, Such as a computer or touch panel control, to the switcher via this DB-9pin Female connector for serial RS-232 control.



Remote port :
DB-9pin Female connector

7 OUTPUT - 1,2,3,4,5,6,7 & 8 CAT

CAT Transmitter extend a signal link of HDMI / RS232 / IR Remote to this RJ-45 Female connector via CAT5e/6 cable. Connector with RJ-45 Output 1 ~ Output 8



CAT connector:
RJ-45 Female connector.

8 IR REMOTE INPUT - 1,2,3,4,5,6,7 & 8 IR SIGNAL TO ROOM

Support eight of IR Extender to control signal to eight rooms
Extend cable distance maximum 300Meters / ~1000 feet
When you plug the CAT5e/6/7 IR extender into the external port, the room IR receiver remain active.



IR Extender Jack:
Female Jack - inner OD \varnothing 3.5 mm

9 IR REMOTE OUTPUT - 1,2,3,4,5,6,7 & 8 IR SIGNAL FROM ROOM

Support eight of IR Extender to receive signal from eight rooms
Extend cable distance maximum 300Meters / ~1000 feet
When you plug the CAT5e/6/7 IR extender into the external port, the room IR receiver remain active.



IR Extender Jack:
Female Jack - inner OD \varnothing 3.5 mm

10 ALL IN : ALL HDBaseT IR REMOTE 1,2,3,4,5,6,7 & 8 (IR SIGNAL TO ROOM)

Support eight of IR remote signals to control to eight rooms via **ALL IN** port.
Extend cable distance maximum 300Meters / ~1000 feet
When you plug the CAT5e/6/7 IR extender into the external port, the room IR receiver remain active.



IR Extender Jack:
Female Jack - inner OD \varnothing 3.5 mm

11 ALL OUT : ALL HDBaseT IR REMOTE - 1,2,3,4,5,6,7 & 8 (IR SIGNAL FROM ROOM)

Support eight of IR remote signals from eight rooms via **ALL OUT** port.
Extend cable distance maximum 300Meters / ~1000 feet
When you plug the CAT5e/6/7 IR extender into the external port, the room IR receiver remain active.




IR Extender Jack:
Female Jack - inner OD \varnothing 3.5 mm

EDID FUNCTION

EDID function for HDMI Matrix Switcher

EDID setup	To change the EDID setup
Step 1 . Press the EDID button	The display will show the currently selected EDID mode
Step 2 . Press SOURCE #1 or #2 button row	The button will flash blue and the display will show the current Embedded EDID Status.
Step 3 . Press the ENTER button	To set EDID mode. The switcher will return to operation mode.
Operation will abort if no keys are pressed within 5 seconds.	

6.1 Embedded EDID modes	Total 8 EDID Modes
<p>Embedded EDID setup</p> <p>Press EDID > SOURCE > ENTER</p> <p>SOURCE #1 or SOURCE #2</p>	<p>to select Embedded EDID mode or LEARNING mode.</p> <p>Press EDID button : The LCM will show the current EDID status.</p>  <p>Repeatedly depressing the source 1 button will cycle up thru the options. Repeatedly depressing the source 2 button will cycle down thru the options.</p> <p>Select Embedded EDID :</p> <ul style="list-style-type: none"> Mode 1 : FSS Mode 2 : H24-3D Mode 3 : H24-3D-M Mode 4 : H36-3D Mode 5 : H36-3D-M Mode 6 : 1280x1024-60Hz Mode 7 : 1920x1200-60Hz Mode 8 : AUTO

EDID FUNCTION

EDID function for HDMI Matrix Switcher

6.2 LEARNING EDID	Learning EDID from Destination to Source
<p>Learning EDID setup</p> <p>Press [EDID] > [DESTINATION] > [SOURCE] > [ENTER]</p> <p>Switcher will LEARN destination HDMI EDID and pass the selected source.</p> <p>Press [EDID] > [DESTINATION] > [SOURCE] > [ENTER] [DESTINATION] ></p> <p>Switcher will LEARN destination CATx EDID and pass the selected source.</p>	<p>Press [EDID] > [DESTINATION] Button: The LCM will be show LEARNING.</p> <div><div>EDID • 1 2 3 4 5 6 7 8</div><div>LEARNING HDMI</div></div> <p>Learning EDID setup for HDMI Key Press Sequence: EDID > DESTINATION # > SOURCE # > ENTER The EDID for HDMI has been learned</p> <p>Press [EDID] > [DESTINATION] > [DESTINATION] Button:</p> <div><div>EDID • 1 2 3 4 5 6 7 8</div><div>LEARNING CATx</div></div> <p>Learning EDID setup for CATx Key Press Sequence: EDID > DESTINATION # > SOURCE # > ENTER Again, Press the same DESTINATION # to learn CATx EDID The EDID for CATx has been learned</p>
<p>NOTE : The already learned EDID cannot be modified. You can only rebuild a new Learning EDID.</p> <p>For example; When the Source has "Learned" the EDID data from a destination, It will save that EDID information into EPROM and the EDID data cannot change. Please select new learning destination to sources or change to one of the embedded EDID modes when you want to remove the learning EDID memory from EPRPM.</p>	

EDID FUNCTION

EDID function for HDMI Matrix Switcher

Mode 1 . FSS® (Fast Speed Start) 	Automatic capture most suitable EDID from Destination to Source.
Mode 2 . H24-3D (1080p-24 bits) 	Audio Support : PCM 2CH
Mode 3 . H24-3D-M (1080p-24bits) 	Audio Support : MAT(MLP) 7.1CH, PCM 2CH, One Bit Audio 2CH, AC-3 5.1CH, DTS 5.1CH, PCM 7.1CH, Dolby Digital + 7.1CH, DTS-HD 7.1CH
Mode 4 . H36 (1080p-36 bits) 	Audio Support : PCM 2CH
Mode 5 . H36-M (1080p-36 bits) 	Audio Support : MAT(MLP) 7.1CH, PCM 2CH, One Bit Audio 2CH, AC-3 5.1CH, DTS 5.1CH, PCM 7.1CH, Dolby Digital + 7.1CH, DTS-HD 7.1CH
Mode 6 . 1280x1024-60Hz (DVI-D) 	DVI Support : DVI-D 1280x1024 60Hz
Mode 7 . 1920x1200-60Hz (DVI-D) 	DVI Support : DVI-D 1920 x 1200 60Hz
Mode 8 . AUTO <Default> 	All Outputs will be set to the highest common resolution of all connected display devices.

EDID FUNCTION

EDID function for HDMI Matrix Switcher

6.2.1 Learning EDID Single to Single	Example : Learn Destination #8 EDID To Source #5.
Step 1 . Press EDID button	The button will flash blue and the display will show the current Embedded EDID Status.
Step 2 . Press the Destination #8 button row	Copy the Destination #8 Display EDID.
Step 3 . Press the Source #5 button row	Learning the Destination #8 EDID To Source # 5.
Step 4 . Press ENTER button	To confirm entries.

6.2.2 Learning EDID Single to multiple	Learning destination EDID link to the majority Sources
Step 1 . Press EDID button	The button will flash blue and the display will show the current Embedded EDID Status.
Step 2 . Press the Destinations #1~8 button row	Copy any 1~8 Destinations EDID.
Step 3 . Press the Source #1, #6,~#8 button row	Learning the Destination EDID link to source #1,#6,~#8 .
Step 4 . Press ENTER button	To confirm entries.

6.2.3 Learning EDID Single to ALL	Learning destination EDID link to All Sources
Step 1 . Press EDID button	The button will flash blue and the display will show the current Embedded EDID Status.
Step 2 . Press destination button 1 thru 8	Learning anyone 1~8 Destination EDID to all sources.
Step 3 . Press ALL button	Learning selected destination EDID to all sources.
Step 4 . Press ENTER button	To confirm entries.

EDID FUNCTION

EDID function for HDMI Matrix Switcher

6.3 EDID status	To view the current EDID status.
Step 1 . Press EDID button	The button will flash blue and the display will show the current Embedded EDID Status.
Step 2 . Press EDID button	To exit.

6.4 How to setup FSS[®] Function	<u>Fast speed start[®]</u>
Step 1 . Press the Destination #1~8 button row Then Press the Source #1~8 button row	To setup and Install all devices.
Step 2 . Press EDID button	Select a optimum status of Embedded EDID mode.
Step 3 . Press ENTER button	To conform entries.
Step 4 . Press EDID button	To select the EDID FSS[®] mode.
Step 5 . Press ENTER button	To conform entries.

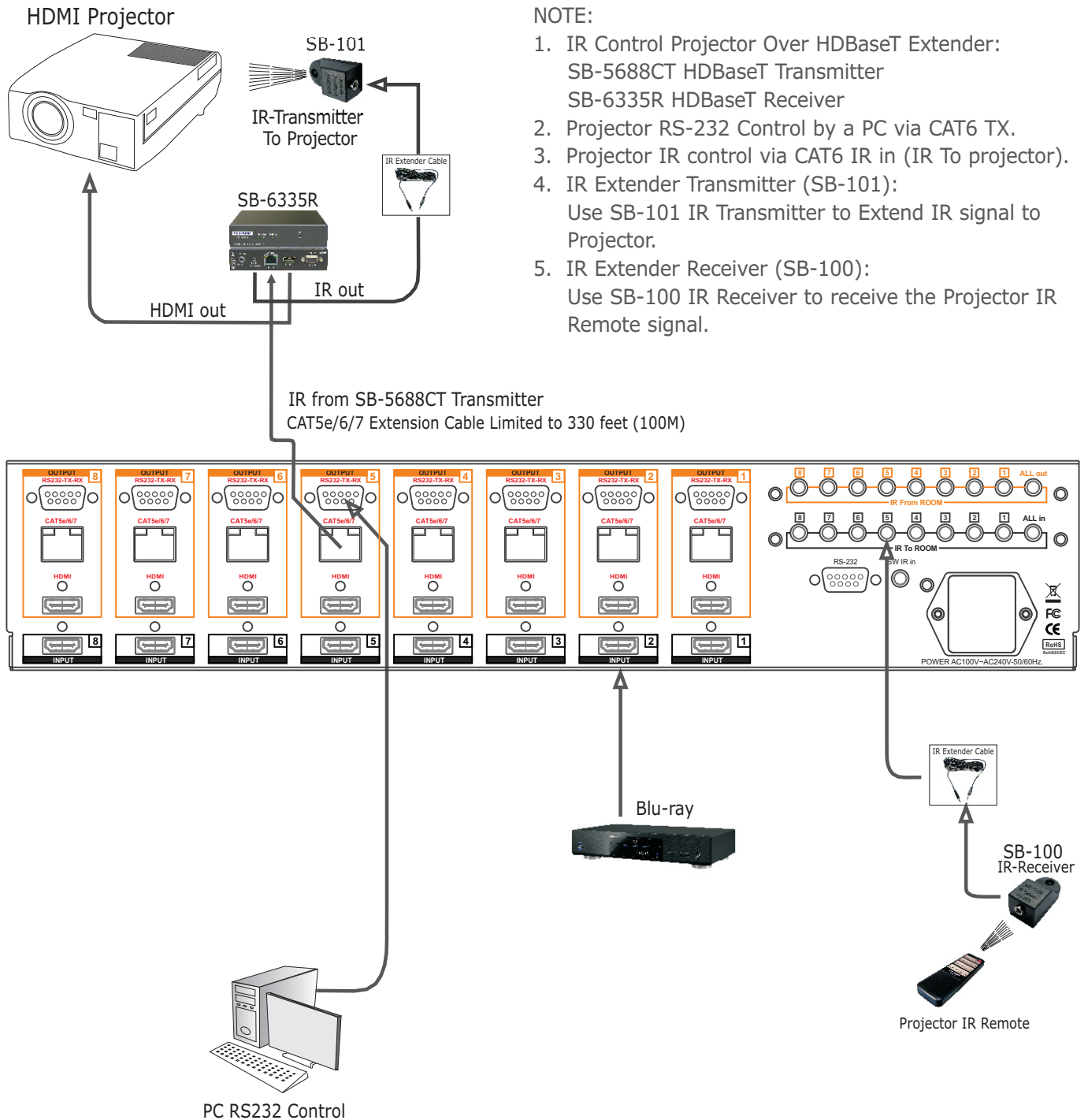
6.5 LEARNING EDID definition	Learning EDID from Destination to Source
<ol style="list-style-type: none"> Switcher will LEARN destination EDID and pass the selected source. To set up learning between a single destination and single source: Press EDID button > Press Destination 1 thru 8 > Press Source 1 thru 8 > Press ENTER to confirm. Switcher will learn destination EDID to source device. To set up learning between a single destination and Multiple sources: Press EDID button > Press Destination 1 thru 8 > Press the majority Sources 1 thru 8 > Press ENTER. Switcher will learn single destination EDID to many source devices. How to Learning single destinations with all sources. Press EDID button > Press ALL button > Press ENTER to confirm. 	

6.6 Auto mode definition	Common Resolution and Audio
<p>Switcher will find highest common Resolution and Audio from all destination EDID to link Source.</p> <p>Example for single source Destination > press #1 and then Source > press #1 Destination device #1 will set to the highest <u>common</u> resolution and Audio of source #1</p> <p>Example for multiple sources Destination device #1, #2, #3 will be set to the highest <u>common</u> resolution and Audio available and source device #1 will output this same resolution.</p>	

TYPICAL APPLICATION

INSTALLING DIAGRAM

Sample connection using IR Transmitters (SB-101) and IR Receiver (SB-100) with SB-6335R & SB-5688CT to control a projector.



Support HDBaseT Extender by SB-6335 Transmitter and SB-6335R Receiver via CAT5e/6/7 cable

TYPICAL APPLICATION

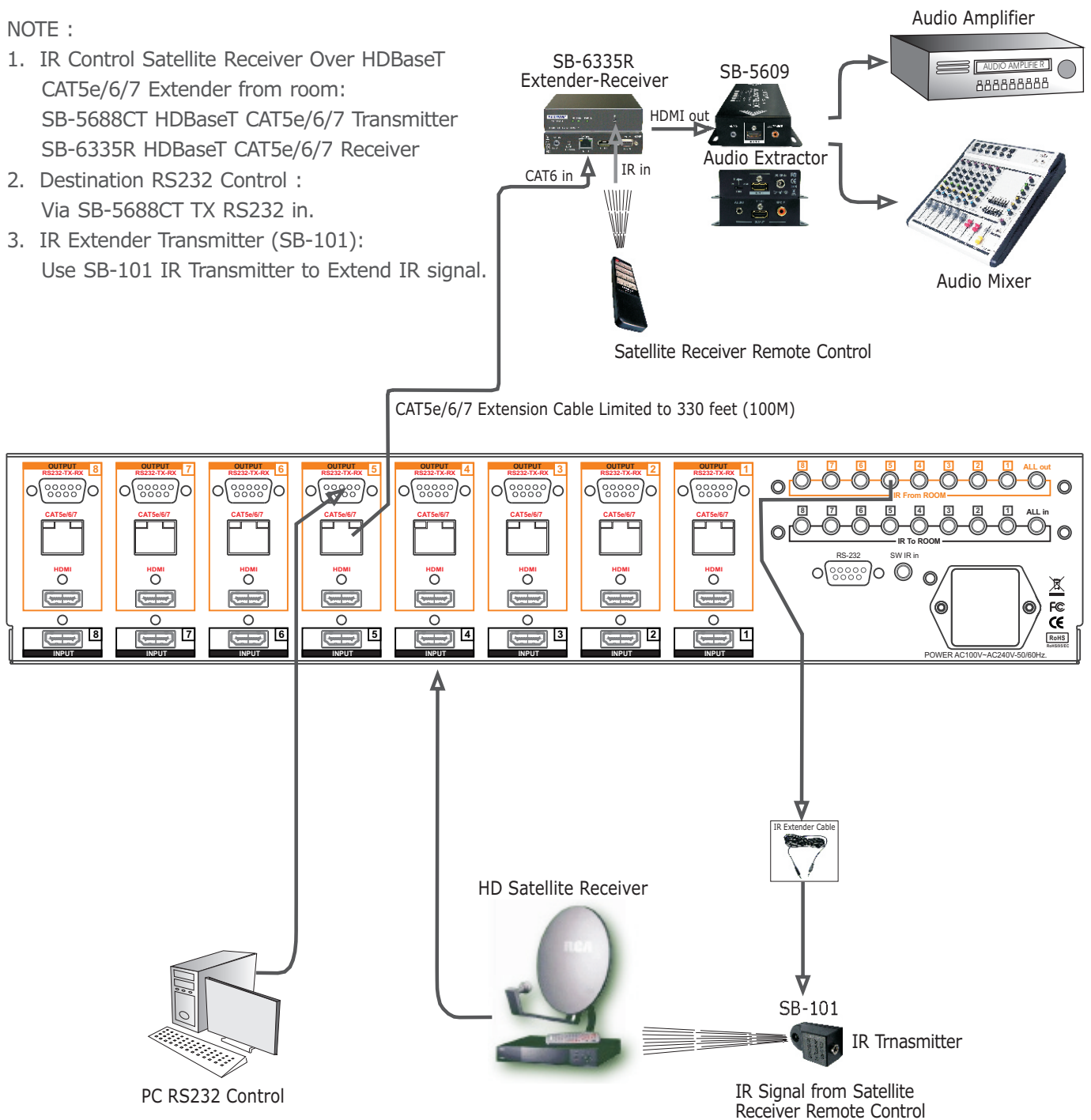
INSTALLING DIAGRAM

8x8 HDMI MATRIX SWITCHER

Sample connection using IR Transmitters (SB-101) with SB-5688CT and SB-6335R to control a IR signal from Satellite Receiver.

NOTE :

1. IR Control Satellite Receiver Over HDBaseT
CAT5e/6/7 Extender from room:
SB-5688CT HDBaseT CAT5e/6/7 Transmitter
SB-6335R HDBaseT CAT5e/6/7 Receiver
2. Destination RS232 Control :
Via SB-5688CT TX RS232 in.
3. IR Extender Transmitter (SB-101):
Use SB-101 IR Transmitter to Extend IR signal.



Support HDBaseT Extender by SB-6335 Transmitter and SB-6335R Receiver via CAT5e/6/7 cable

TYPICAL APPLICATION

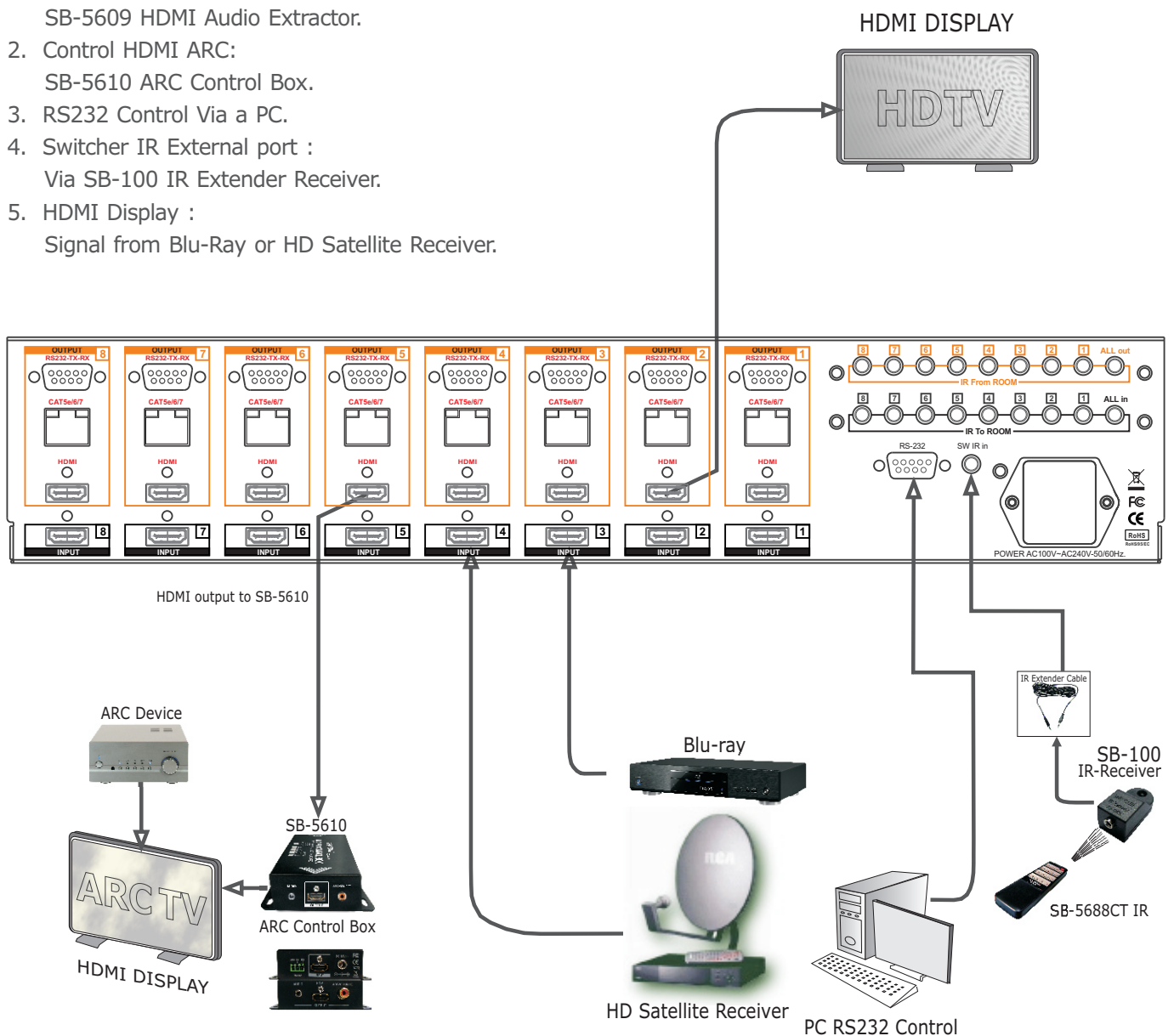
INSTALLING DIAGRAM

8x8 HDMI-CAT5e/6 MATRIX SWITCHER

Sample connection using Audio Extractor To Recode Audio (SB-5609) or to control ARC (SB-5610) and Extend the HDMI signal via HDBaseT Transmitter to IR Receivers (SB-6335R) with SB-5688CT to extend 100M distance between switcher and destination..

NOTE :

1. Audio Extractor To Recode Audio :
SB-5609 HDMI Audio Extractor.
2. Control HDMI ARC:
SB-5610 ARC Control Box.
3. RS232 Control Via a PC.
4. Switcher IR External port :
Via SB-100 IR Extender Receiver.
5. HDMI Display :
Signal from Blu-Ray or HD Satellite Receiver.



Application HDBaseT IR, RS-232, Multi format Audio and HD Video signals to pass over CXAT5e/6/7 cable.

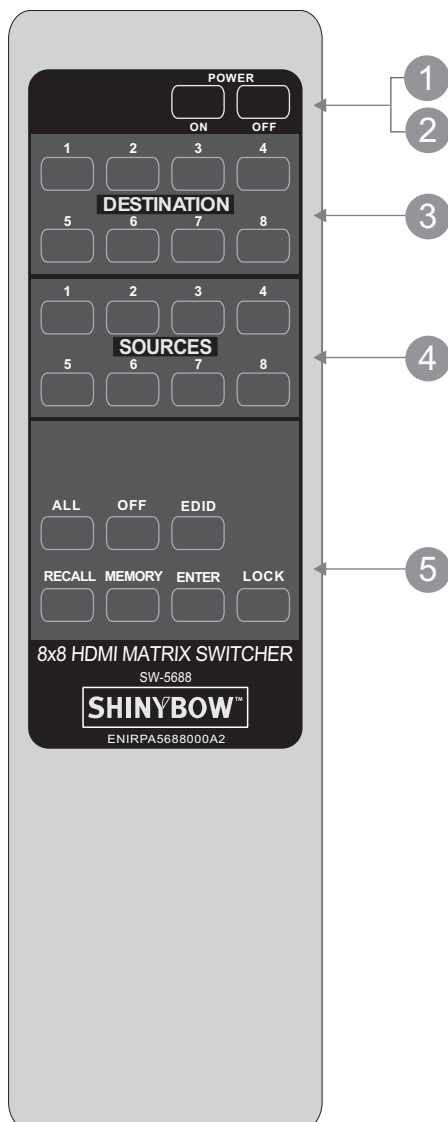
REMOTE CONTROL

Before making any connections to the switcher. Observe the following:

- > Ensure the mains voltage supply matches the label on the supplied plug-Pack (+/- 10%)
- > Ensure that the power switch is OFF
- > Ensure that all system grounds (earth) are connected to a common point.
- > Avoid powering equipment within a system from multiple power sources that may be separated by large distances
- > Connect all audio video sources and destination equipment
- > power up all source and destination audio-visual sources
- > For each destination output select the appropriate input source by using The front panel input 1~8 select buttons. The supplied IR remote control. Or through the RS 232 serial communications port.
- > Upon power up the switcher will return to its last used setting before Powered down.

REMOTE CONTROL

IR REMOTE : SW-5688



IR REMOTE CONTROL KEY :

- 1 2 SWITCH POWER ON or OFF
Controller with a separate power ON and OFF
- 3 DESTINATION : 1 thru 8 OUTPUT SELECTION
Press the destination button to select the output display channel
- 4 SOURCE : 1 thru 8 INPUT SOURCE SELECTION
Press input 1~8 sources with selection button
- 5 FUNCTION KEY
 - ALL - function selection button
 - OFF - function selection button
 - EDID - function selection button
 - RECALL - function selection button
 - MEMORY - function selection button
 - ENTER - function selection button
 - LOCK - function selection button

REMOTE CONTROL

IR REMOTE CUSTOM AND DATA CODES (NEC Standard)

HOW TO SETUP IR CODES :

CUSTOM CODE : 09F6

POWER ON : 09F6 A15E

POWER OFF : 09F6 A25D

ALL	:	09F6	B04F
OFF	:	09F6	B14E
EDID	:	09F6	B748
LOCK	:	09F6	B54A
RECALL	:	09F6	B24D
MEMORY	:	09F6	B44B
ENTER	:	09F6	B34C

PRESS DESTINATION - # then PRESS SOURCE -

DESTINATION #1	:	09F6	10EF
DESTINATION #2	:	09F6	20DF
DESTINATION #3	:	09F6	30CF
DESTINATION #4	:	09F6	40BF
DESTINATION #5	:	09F6	50AF
DESTINATION #6	:	09F6	609F
DESTINATION #7	:	09F6	708F
DESTINATION #8	:	09F6	807F

SOURCE #1	:	09F6	01FE
SOURCE #2	:	09F6	02FD
SOURCE #3	:	09F6	03FC
SOURCE #4	:	09F6	04FB
SOURCE #5	:	09F6	05FA
SOURCE #6	:	09F6	06F9
SOURCE #7	:	09F6	07F8
SOURCE #8	:	09F6	08F7

For example;

Select Destination # 1 to show Source #1~8,

The IR Data Code list :

Destination # 1 , Source #1	09F6	10EF	09F6	01FE
Destination # 1 , Source #2	09F6	10EF	09F6	02FD
Destination # 1 , Source #3	09F6	10EF	09F6	03FC
Destination # 1 , Source #4	09F6	10EF	09F6	04FB
Destination # 1 , Source #5	09F6	10EF	09F6	05FA
Destination # 1 , Source #6	09F6	10EF	09F6	06F9
Destination # 1 , Source #7	09F6	10EF	09F6	07F8
Destination # 1 , Source #8	09F6	10EF	09F6	08F7

ROOM REMOTE CONTROL

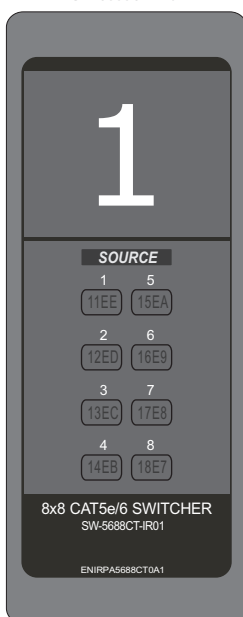
ROOM REMOTE CONTROL #1 ~ #8 CUSTOM CODE AND DATA CODES

IR CUSTOM AND DATA CODES (NEC Standard)

PRESS Number To Select SOURCE

CUSTOM CODE : 09F6

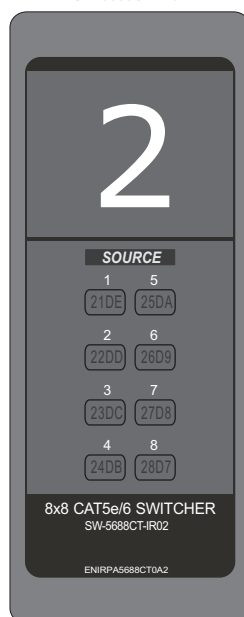
8x8 CAT5e/6 SWITCHER
SW-5688CT-IR01



IR-01 DATA CODE:

SOURCE #1 : 09F6 11EE
SOURCE #2 : 09F6 12ED
SOURCE #3 : 09F6 13EC
SOURCE #4 : 09F6 14EB
SOURCE #5 : 09F6 15EA
SOURCE #6 : 09F6 16E9
SOURCE #7 : 09F6 17E8
SOURCE #8 : 09F6 18E7

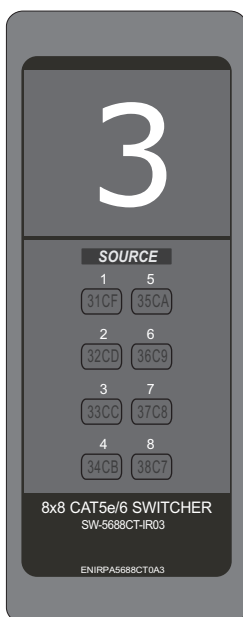
8x8 CAT5e/6 SWITCHER
SW-5688CT-IR02



IR-02 DATA CODE:

SOURCE #1 : 09F6 21DE
SOURCE #2 : 09F6 22DD
SOURCE #3 : 09F6 23DC
SOURCE #4 : 09F6 24DB
SOURCE #5 : 09F6 25DA
SOURCE #6 : 09F6 26D9
SOURCE #7 : 09F6 27D8
SOURCE #8 : 09F6 28D7

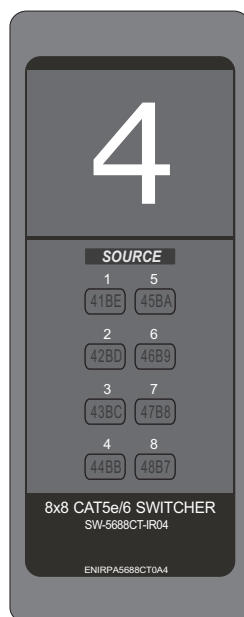
8x8 CAT5e/6 SWITCHER
SW-5688CT-IR03



IR-03 DATA CODE:

SOURCE #1 : 09F6 31CE
SOURCE #2 : 09F6 32CD
SOURCE #3 : 09F6 33CC
SOURCE #4 : 09F6 34CB
SOURCE #5 : 09F6 35CA
SOURCE #6 : 09F6 36C9
SOURCE #7 : 09F6 37C8
SOURCE #8 : 09F6 38C7

8x8 CAT5e/6 SWITCHER
SW-5688CT-IR04



IR-04 DATA CODE:

SOURCE #1 : 09F6 41BE
SOURCE #2 : 09F6 42BD
SOURCE #3 : 09F6 43BC
SOURCE #4 : 09F6 44BB
SOURCE #5 : 09F6 45BA
SOURCE #6 : 09F6 46B9
SOURCE #7 : 09F6 47B8
SOURCE #8 : 09F6 48B7

ROOM REMOTE CONTROL

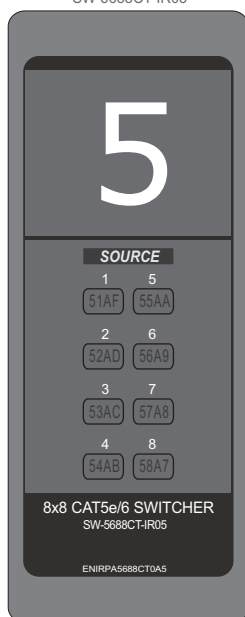
ROOM REMOTE CONTROL #1 ~ #8 CUSTOM CODE AND DATA CODES

IR CUSTOM AND DATA CODES (NEC Standard)

PRESS Number To Select SOURCE

CUSTOM CODE : 09F6

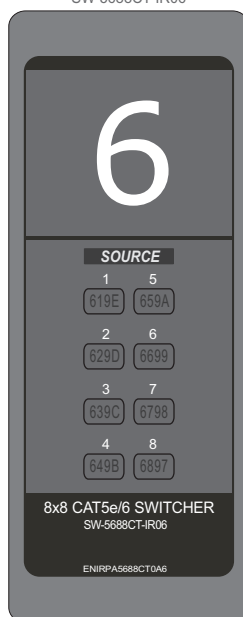
8x8 CAT5e/6 SWITCHER
SW-5688CT-IR05



IR-05 DATA CODE:

SOURCE #1 : 09F6 51AE
SOURCE #2 : 09F6 52AD
SOURCE #3 : 09F6 53AC
SOURCE #4 : 09F6 54AB
SOURCE #5 : 09F6 55AA
SOURCE #6 : 09F6 56A9
SOURCE #7 : 09F6 57A8
SOURCE #8 : 09F6 58A7

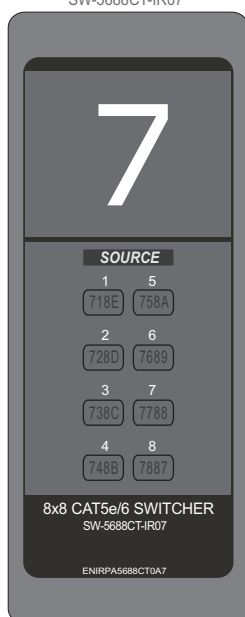
8x8 CAT5e/6 SWITCHER
SW-5688CT-IR06



IR-06 DATA CODE:

SOURCE #1 : 09F6 619E
SOURCE #2 : 09F6 629D
SOURCE #3 : 09F6 639C
SOURCE #4 : 09F6 649B
SOURCE #5 : 09F6 659A
SOURCE #6 : 09F6 6699
SOURCE #7 : 09F6 6798
SOURCE #8 : 09F6 6897

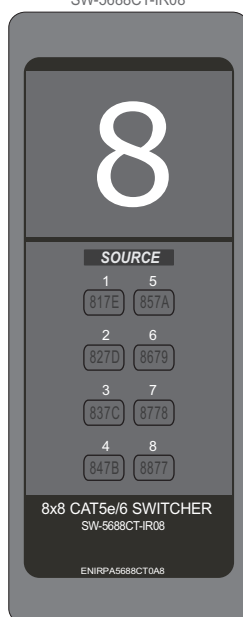
8x8 CAT5e/6 SWITCHER
SW-5688CT-IR07



IR-07 DATA CODE:

SOURCE #1 : 09F6 718E
SOURCE #2 : 09F6 728D
SOURCE #3 : 09F6 738C
SOURCE #4 : 09F6 748B
SOURCE #5 : 09F6 758A
SOURCE #6 : 09F6 7689
SOURCE #7 : 09F6 7788
SOURCE #8 : 09F6 7887

8x8 CAT5e/6 SWITCHER
SW-5688CT-IR08



IR-08 DATA CODE:

SOURCE #1 : 09F6 817E
SOURCE #2 : 09F6 827D
SOURCE #3 : 09F6 837C
SOURCE #4 : 09F6 847B
SOURCE #5 : 09F6 857A
SOURCE #6 : 09F6 8679
SOURCE #7 : 09F6 8778
SOURCE #8 : 09F6 8877

CONSUMER ELECTRONICS CONTROL (CEC)

CONSUMER ELECTRONIC CONTROL (CEC)

In brief, CEC allows HDMI devices to control each other when necessary and allows the user to operate multiple devices with one remote control handset.

To Enable CEC

- Press **EDID** button
- Press **ALL** button
- Press **EDID** button The pre-set configuration will execute.

To Disable CEC

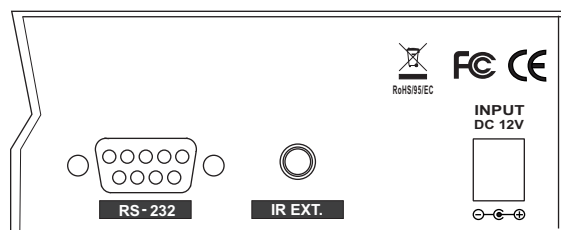
- Press **EDID** button
- Press **OFF** button
- Press **EDID** button The pre-set configuration will execute.

Not all device support CEC. Check with your Users Guide for additional information and specifications.

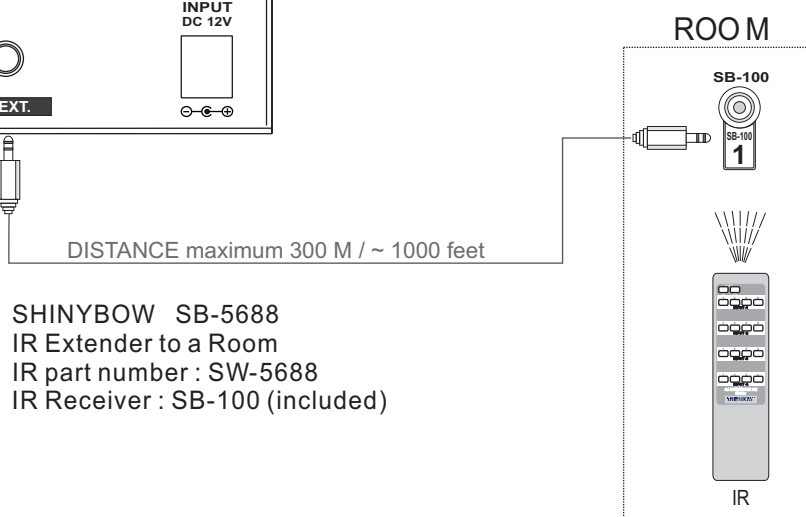
To ensure stable operation, HDMI connections should only be made with switcher powered OFF.

IR EXTENDER

REAR PANEL IR EXTENDER PORT



IR EXTENDER CONNECTION

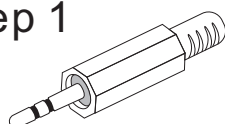


*** When you plug the External IR extender into the switcher, the front panel IR receiver remains active. ***

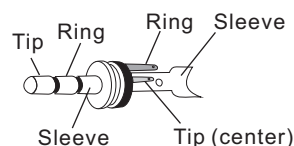
IR EXTENDER PACKAGE :

HOW TO SETUP THE IR EXTENDER COMPONENTS

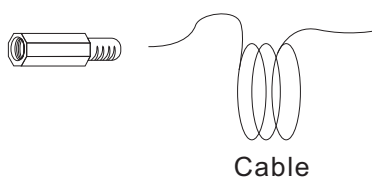
Step 1



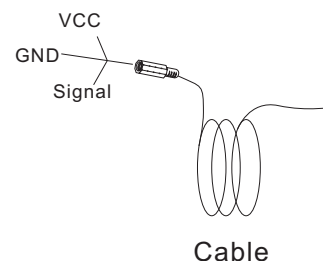
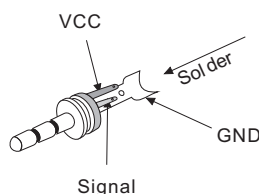
Tip:Signal
Ring:VCC
Sleeve:GND



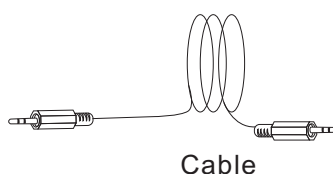
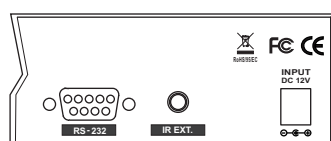
Step 2



Step 3



Switcher IR EXT. In

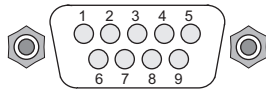


IR Receiver (SB-100)

RS-232 SERIAL INTERFACE

RS-232 SERIAL INTERFACE CONNECT a PC or CONTROL SYSTEM. VERSION COMPATIBLE V2.0

For a complete list of commands, please reference external document extended RS-232 Protocol Instruction Manual.



RS-232 SERIAL INTERFACE

Pin	RS-232	Definition
1	-----	Not used
2	TX	Transmitter
3	RX	Receiver
4	-----	Not used
5	GND	Ground
6	-----	Not used
7	-----	Not used
8	-----	Not used
9	-----	Not used

RS-232 PROTOCOL COMMANDS (RS232 Control driver V2.0)

LIMITED WARRANTY

LIMITED WARRANTY

SHINYBOW WARRANTY

SHINYBOW Technology warrants this product against defects in materials and workmanship for a period of 3 years from the date of purchase.

Should this product, in SHINYBOW Technology's opinion, prove defective within this warranty period, SHINYBOW Technology, at its option, will repair this product without charge, to whatever extent it shall deem necessary to restore said product to proper operation condition. This does not extend the warranty period.

This warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, and abnormal operating condition or non-SHINYBOW Technology authorized modification to the product.

If repairs are necessary under the warranty policy, the original purchaser must return the product to local distributor, freight prepaid.

After repairs are complete, the product will be returned.

REGULATORY COMPLIANCE

The product complies with the relevant standards for CE, FCC and RoHS approval.

The power Adaptor/Supply has been tested for compliance with UL.CSA and CE standards.

TROUBLESHOOTING

If you experience a <no signal> with this switcher or distributor outputs, first make certain that the signal being fed to its inputs is acceptable.

Disconnect the cables from the this switcher or distributor inputs and connect them directly to an appropriate monitoring device, if you do not see or hear a signal the problem may well be the signal source itself. Also check that the AC outlet you have used to power the switcher or distributor is actually providing power as a wall switch often controls an AC outlet.

The second most common problem with this switcher or distributor revolves around the cables, inspect the cables for loose connectors or cable damage such as crushed cable or cables with cuts or nicks. Replace any cable exhibiting these problems.

You also must use the highest quality cables if you want to achieve the best results. Poor quality cables provide will poor quality signals.

SHINYBOW™ USA

MULTIMEDIA AUDIO AND VISUAL

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